AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in this application:

Listing of Claims:

1-40. cancelled

41. (previously presented) A method for extracting a multi-protein complex comprising the steps of:

a. introducing a sample solution comprising the multi-protein complex into an open extraction channel, wherein the inner surface of the open extraction channel is comprised of a solid phase extraction surface, wherein said multi-protein complex is comprised of at least a first protein and a second protein, whereby said multi-protein complex is adsorbed to said extraction surface;

b. optionally passing a wash solution through the channel; and

c. passing a first desorption solution through the channel, thereby eluting said first protein,

wherein the sample solution, the wash solution or the first desorption solution are flowed back and forth through the extraction channel.

42. (previously presented) A method for extracting a multi-protein complex comprising the steps of:

a. introducing a sample solution comprising the multi-protein complex into an open extraction channel, wherein the inner surface of the open extraction channel is comprised of a solid phase extraction surface, wherein said multi-protein complex is comprised of at least a first protein and a second protein, whereby said multi-protein complex is adsorbed to said extraction surface;

b. optionally passing a wash solution through the channel; and

c. passing a first desorption solution through the channel, thereby eluting said first protein, wherein said second protein remains adsorbed to said extraction surface; and

d. passing a second desorption solution through the extraction channel, thereby eluting said second protein, wherein the second desorption solution is flowed back and forth through the extraction channel.

43-49. cancelled.

50. (previously presented) The method of claim 41, wherein the extraction surface is comprised of an affinity binding agent selected from the group consisting of a chelated metal, a protein, an organic molecule or group, a sugar, and a nucleic acid.

51-53. cancelled.

54. (previously presented) The method of claim 41, wherein the multi-protein complex is selected from a group consisting of:
a multi-protein complex comprising a His-tagged protein, a multi-protein complex comprising a phosphopeptide or a phosphoprotein, a multi-protein complex comprising a small molecule-tagged protein, a multi-protein complex comprising a protein antigen, a multi-protein complex comprising an epitope-tagged protein, a multi-protein complex comprising a kinase, a multi-protein complex comprising a phosphatase, a multi-protein complex comprising a glycopeptide or a glycoprotein, a multi-protein complex comprising a biotinylated protein and a multi-protein complex comprising a biotinylated nucleic acid bound to a protein.

55. (previously presented) The method of claim 42, wherein the multi-protein complex is selected from a group consisting of:
a multi-protein complex comprising a His-tagged protein, a multi-protein complex comprising a phosphopeptide or a phosphoprotein, a multi-protein complex comprising a small molecule-tagged protein, a multi-protein complex comprising a protein antigen, a multi-protein complex comprising an epitope-tagged protein, a multi-protein complex comprising a kinase, a multi-protein complex comprising a phosphatase, a multi-protein complex comprising a glycopeptide or a glycoprotein, a multi-protein complex comprising a biotinylated protein and a multi-protein complex comprising a biotinylated nucleic acid bound to a protein.

56. (previously presented) The method of claim 41, wherein the extraction surface is 3-dimensional.

57. (previously presented) The method of claim 42, wherein the first and second desorption solutions differ in at least one of the following parameters: pH, ionic composition, ionic strength, and solvent polarity.

58. (previously presented) The method of claim 42, wherein the extraction channel is a

capillary.

59. (previously presented)The method of claim 58, wherein the capillary is comprised of fused silica.

60. (previously presented) The method of claim 41, wherein prior to step (c), the channel is purged with a gas so that said extraction channel is substantially free of bulk liquid and wherein said extraction surface remains substantially solvated after the purging step.

61. (previously presented) The method of claim 60, wherein the entire multi-protein complex is eluted with a solid phase extraction tube enrichment factor greater than 1.

62. (previously presented) The method of claim 42, wherein prior to step (c), the channel is purged with a gas so that said extraction channel is substantially free of bulk liquid and wherein said extraction surface remains substantially solvated after the purging step.

63. (previously presented) The method of claim 62, wherein the entire multi-protein complex is eluted with a solid phase extraction tube enrichment factor greater than 1.

64. (previously presented) The method of claim 50, wherein the extraction surface is 3-dimensional.

65. (previously presented) The method of claim 42, wherein said protein complex further comprises a third protein, and wherein after elution of said second protein a third desorption solution is passed through the extraction channel, thereby eluting said third protein.

66. (previously presented) The method of claim 42, wherein the extraction surface is comprised of an affinity binding agent selected from the group consisting of a chelated metal, a protein, an organic molecule or group, a sugar, and a nucleic acid.

67. (previously presented) The method of claim 66, wherein the extraction surface is 3-dimensional.

68. (previously presented) The method of claim 41, wherein the extraction channel is a capillary.

69. (previously presented) The method of claim 68, wherein the capillary is comprised of fused silica.